

THE CANADIAN BOTANICAL ASSOCIATION

BULLETIN

L'ASSOCIATION BOTANIQUE DU CANADA

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Waterloo

THE 1975 ANNUAL MEETING

"BEP 1975"

This will be a joint meeting of the Canadian Botanical Association--
L'Association Botanique du Canada, the Entomological Society of Canada and the
Canadian Phytopathological Society on the campus of the University of Saskatchewan
in Saskatoon, August 17 to 22, 1975.

Schedule. This will be the first joint meeting of the three societies--
Botany, Entomology and Phytopathology--and a number of joint sessions are planned
to take advantage of this unique opportunity.

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|-----------------------|--|
| August 17 - Sunday | - Registration |
| August 18 - Monday | - Morning: Registration, opening ceremonies and
first joint session.
Afternoon: Contributed papers.
Evening: Society business meetings. |
| August 19 - Tuesday | - Morning: Second joint session.
Afternoon: Contributed papers.
Evening: Joint banquet. |
| August 20 - Wednesday | - Morning: Third joint session.
Afternoon: Local field trips.
Evening: Barbeque. |
| August 21 - Thursday | - Morning: Fourth joint session.
Afternoon: Contributed papers.
Evening: Open |
| August 22 - Friday | - Full-day field trips. |

Program. A number of outstanding authorities have accepted invitations to
act as keynote speakers to introduce the joint sessions.

1. EFFECTS OF INSECTS AND PLANT DISEASES ON THE DISTRIBUTION AND ABUNDANCE
OF PLANTS.

- Keynote speaker - D.H. Janzen, University of Michigan.
"Effects of insect and mammalian herbivores on the
distribution and abundance of tropical woody plants."

2. CO-EVOLUTION OF INSECTS, PLANTS, AND PATHOGENS

- Keynote speaker - E.E. Leppik, U.S.D.A. Research Service,
Beltsville, Md.
"Co-evolution of rust fungi, their host plants
and obliquely adapted insects."
- Keynote speaker - H. Zwölfer, Staatliches Museum für
Naturkunde, Ludwigsburg, Germany.
"Co-evolution of phytophagous insects with plants."
- Keynote speaker - P.G. Kevan, Memorial University, Nfld.
"Pollination, evolution of mechanisms."

3. PLANT GALLS, THEIR STRUCTURE AND DEVELOPMENT AND THE BIOLOGY OF INHABITANTS.

- Keynote speaker - J. Meyer, Botanical Institute, University of
Strasbourg, France.
"Structure and development of insect galls."

4. INSECT VECTORS AND PLANT DISEASES

- Keynote speaker - K. Maramorosch, Rutgers University, N.J.
"Insect vectors and plant diseases."
- Keynote speaker - R.J. Campana, University of Maine.
"Dutch elm disease, the biological relationships between
the types of organisms involved."

Contributed papers from all three societies which pertain to these topics will be included in the joint sessions listed above or will be grouped into special sessions related to them. Members of the Canadian Botanical Association are urged to contribute to this program and the section officers are particularly requested to insure that there will be an important botanical component. The General Section is already making plans for two sessions to follow the joint session on Coevolution of Insects, Plants and Pathogens. One of these will deal with Floral Morphology and the other with Floral Function. There will of course be other sessions of contributed papers, as many as are needed, to accommodate submissions not related to the special topics. The call for papers may be expected in late March.

Excursions

On the afternoon of Wednesday, August 20, a number of local excursions is planned. There will be tours of local laboratories and facilities including the Canada Department of Agriculture Research Station, the Prairie Regional Laboratory of N. R. C., the Prairie Migratory Bird Laboratory, the Crop Development Centre and others. There will also be field trips to natural areas in the vicinity of Saskatoon including grasslands, wooded river valley and sandhills.

On Friday, August 22, two full-day excursions are planned, one south to Matador grassland research project and one north to the Nisbet Provincial Forest at the southern edge of the boreal forest.

If there is sufficient interest at the time of pre-registration, a two-day pre-conference field trip is planned to visit the proposed site of the Grasslands National Park and the Cypress Hills area in southwestern Saskatchewan. This would

take place on Saturday and Sunday, August 16 and 17.

Note that all field trips will have leaders drawn from the three disciplines represented in this conference.

Accommodation

Lodging and meals will be available for delegates on the campus of the University of Saskatchewan. In order to obtain the best possible price a package plan has been negotiated with the University. Keeping in mind that a number of delegates may wish to leave on Thursday afternoon or evening, this plan extends only through lunch on Thursday, but rooms and meals will be available on a unit basis for the remainder of the week. Details are as follows:

Single room: \$69.40; Double room \$63.20/person including tax. Rate includes room for nights of August 17-20 (incl.) and meals from breakfast on August 18 until lunch on August 21 except banquet (August 19) and barbeque (August 20). Children under age 12 \$20.00 including meals if accommodated in same room as adult and if not bed or bedding is provided by Residence Department. Pre- and post-meeting rooms only - single \$8.90; double \$7.35

For those who wish to stay off campus several motels and hotels are available. Delegates will be asked to make their own reservations directly with the establishment of their choice. Note that the prices listed are current and may change before next August.

Holiday House Motor Hotel and Motel, 2901 Eighth Street East, Box 1505, Saskatoon, S7K 3R3. Single \$10.00-14.00; Double \$13.00-17.00; Twin \$14.00-19.00; DD \$17.00-22.00. Kitchenettes available. Coffee shop, licensed dining room, cocktail room.

Colonial Motel, 1301 Eighth Street East, Saskatoon, S7H 0S7. Single \$10.00-14.00; Double \$12.00-18.00; Twin \$14.00-18.00; DD \$18.00-22.00. Kitchenettes \$14.00-20.00. 1 room suite \$24.00. Restaurant.

Bessborough Hotel, 601 Spadina Crescent East, Saskatoon, S7K 3L6. Single \$18.00-26.00; Double \$24.00-32.00. Restaurant, licensed dining room and cocktail room.

Sheraton Cavalier Motor Inn, 612 Spadina Crescent East, Saskatoon. Single \$18.00 up; Double \$22.00 up. Suites available. Restaurant, licensed dining room and cocktail room.

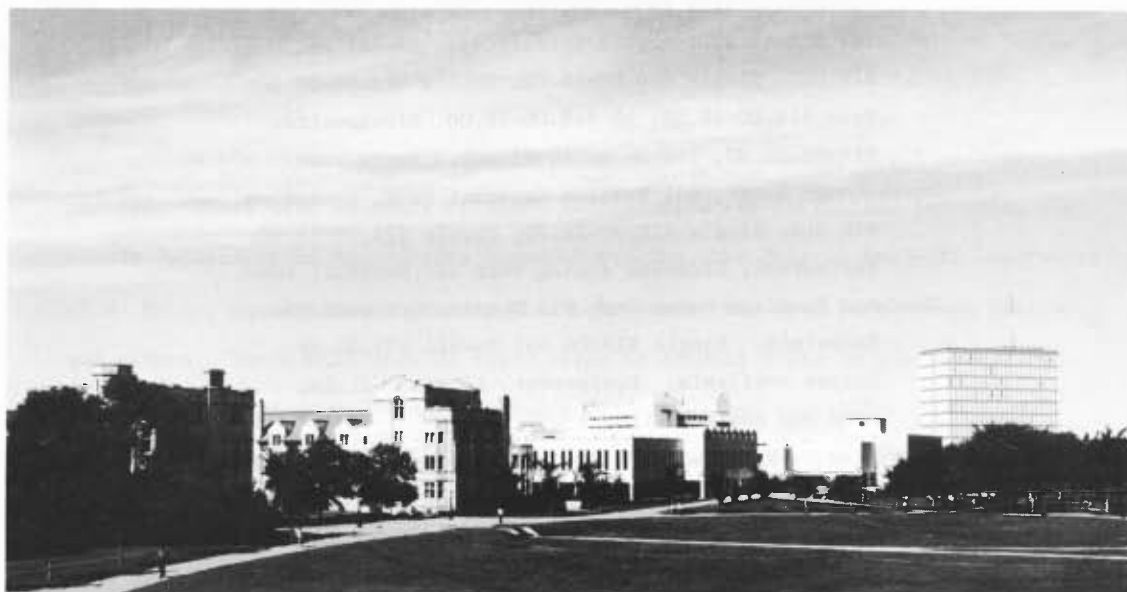
Park Town Motor Hotel, 924 Spadina Crescent East, Saskatoon. Single \$12.50-15.00; Double \$16.00-18.00; DD \$20.00-22.00; Suites \$16.00-24.00. No charge for children under 12. Cocktail lounge and licensed dining room.

Campgrounds: Pike Lake Provincial Park on Highway 60 off Highway 14, 20 miles south west of Saskatoon. Tent and trailer facilities, \$1/day, \$3/day with electricity. Swimming, boating, golfing, playground, and nature trails.

Gordon Howe Tent Site, Avenue P South, Saskatoon. \$2.40/day (nearly all sites electrified). Tents and trailer facilities (dump station, no sewer or water hook-ups). Playground and paddling pool. Bus service and swimming pool nearby.



W.P. Thompson Biology Building, University of Saskatchewan.



A view of the University of Saskatchewan campus.

WE ARE TEN YEARS OLD!

This year we are 10 years old! A history of these brief but activity filled years appears in this edition of the Bulletin. In these 10 years the CBA/ABC has become a focal point of contact and communication for botanists across Canada. This has been achieved principally through the annual meetings which are held each year in different parts of the country, and through the Bulletin which is the newsletter of the Association. Besides being a means of contact and communication within the botanical fraternity of Canada the CBA has become a means of interaction between botanists and workers in related disciplines. This is particularly well demonstrated by the 1975 annual meetings which will be held in Saskatoon in conjunction with the Entomological Society of Canada and the Canadian Phytopathological Society. This should provide a stimulating opportunity for interchange of ideas and it is hoped that as many of our members as possible will join us at Saskatoon. The planning for these meetings is well advanced thanks to the energetic activity of our organizing committee and details of the programme are included in this issue of the Bulletin. So, please come to Saskatoon and make our Tenth Anniversary Meetings an outstanding success!

LETTER TO THE EDITOR

I was most interested to read Dr. Cavers' Presidential Address relating to the problems of botanical science in Canada (CBA Bulletin, July, 1974). Obviously your society is suffering from the same malaise as is the Entomological Society of Canada. A symposium entitled "Contemporary role and responsibilities of the Entomological Society of Canada" was held during our annual meeting at Halifax in the last week of August. Many of the sentiments expressed at that symposium are echoed in Dr. Cavers' address. Evidently the science of biology as a whole is undergoing a period of depression which one can only hope will be shortlived. However, the biologist cannot lay the blame solely on an adverse Canadian science policy. I think each of us must be a disciple for a policy of expanded biological research in Canada. No one will help us if we don't help ourselves, and unless we, as scientists, become actively involved in our societies' affairs, and make those societies prestigious and vocal enough to assume an active role in the formulation of future national science policies, we have no one to blame but ourselves. The point was well made in your president's address.

I also appreciate Dr. Cavers' assessment of the importance of sound taxonomic work to many disciplines in both zoology and botany. A comprehensive knowledge of the living things with which we share this vast country is an absolute requisite to our continual well-being; and a full ecological assessment of man's status in the Canadian milieu cannot be carried forward without a taxonomic knowledge of the organisms that affect our very existence.

However, I do take exception to Dr. Cavers' remarks on the "poor quality" of Canadian research in systematics. I am best qualified to speak from the standpoint of an insect taxonomist but I trust the same principle holds true of Canadian plant taxonomy.

Canadian insect taxonomists are making as great a contribution to their science as those in any other country and a great deal larger contribution than most. In some areas of the world, at present, such as in continental Europe, taxonomy seems to be in a moribund condition. But in speaking of the quality of systematics, perhaps Dr. Cavers was referring to grant applicants proposing to undertake taxonomic project; I don't know. In any event I agree that Canadian taxonomists must concentrate on the Canadian flora and fauna; our task in the Canadian context is a gargantuan one and time is our enemy.

D.F. Hardwick

(Dr. Hardwick is Director of the Biosystematics Research Institute in Ottawa - ed.)

Dr. Cavers writes in response to Dr. Hardwick's letter:-

Dr. Hardwick's assumption in his final paragraph is correct. The comment about the quality of Canadian research in systematics was passed by the N.R.C. committee after its members had reviewed the applications for grants in this field. A prime concern of our committee was the paucity of graduate work in systematics being done by Canadian students. This scarcity of new graduates, trained in this country, should be of concern to all our systematists.

NEWS FROM THE SECTIONS

THE PHYCOLOGICAL SECTION Chairman: J. F. Gerrath, Secretary-Treasurer: G. R. South

A small, but enthusiastic representation of the Phycological Section met in Tempe, Arizona, on June 17. J.F. Gerrath (University of Guelph) was designated Chairman with G. R. South (Memorial University) as Secretary-Treasurer. The other Executive Committee members are, D. T. Waite (University of Saskatchewan, Regina) and Janet Stein (University of British Columbia).

Plans for the 1975 meeting at the University of Saskatchewan, Saskatoon, were discussed. It was agreed to sponsor a symposium on the bluegreen algae with regard to ecological and economic aspects. Participants and potential topics were suggested and will be submitted to Don Waite, the Local Representative.

During the coming year it is proposed to update the "List of Phycological Workers in Canada", as well as compile and circulate the membership of the Section. It is hoped there will be more participation in the 1975 meetings, especially more contributed papers. The possibility of an award for the outstanding contributed paper presented by a graduate student was discussed. Further comment by Section members should be directed to the Chairman. The meeting concluded with a report of the current status of the algal check-lists. It is planned that further information on these will be forthcoming during the year.

Janet R. Stein

THE GENERAL SECTION

The business of the General Section during 1973/74 consisted of sending a letter to all of its members urging them to attend the joint C.B.A./A.I.B.S. meetings in Tempe and

forwarding abstract received from members to the appropriate section chairmen of the Botanical Society of America. The symposium "Teaching with Fungi" was organized by the Teaching Section of the Botanical Society of America and Dr. B.C. Lu, University of Guelph, participated in this symposium.

The Business Meeting of the General Section on June 17, 1974 was attended by 12 members. Participation in the 1975 meetings in Saskatoon was discussed and it was agreed that the General Section would like to see inclusion of the following three areas in the program: 1) Floral biology and morphology, 2) Insect galls, and 3) Tissue culture and disease. Dr. Jack Maze, University of British Columbia, agreed to coordinate the efforts of the General Section in these areas.

The new directors were elected for the term 1974 to 1977: Dr. Rolf Sattler, McGill University and Dr. Iain Taylor, University of British Columbia. Dr. Nancy Dengler, University of Toronto and Dr. Iain Taylor, University of British Columbia agreed to serve as chairman and secretary respectively.

Nancy Dengler

THE A.C. NEISH MEMORIAL TRUST

Since the death of Dr. Neish on September 7, 1973 many of his friends and colleagues have expressed a desire to contribute to a memorial in his name, as a mark of personal esteem.

A memorial fund has now been set up for this purpose. It is intended that the income from the fund will be used to establish a series of lectures, to be known as the A.C. Neish Memorial Lectures, which will be given annually or biannually in Canada by a distinguished scientist.

It is hoped that a sum in the vicinity of \$10,000 can be raised. The fund will be held in trust and administered by a group of Trustees.

In view of Dr. Neish's close personal and professional ties with Nova Scotia, it is proposed that the Memorial Lecture will normally be given in his native province, but other provinces may be included if sufficient funds are available.

Contributions are now being solicited. It is hoped that the response will be generous. Cheques or money orders should be made payable to "The A.C. Neish Memorial Trust" and forwarded to Mrs. I.M. Hilchie, Secretary Treasurer, 1411 Oxford Street, Halifax, N.S., Canada B3H 3Z1. Contributors will receive an official receipt for Income Tax purposes.

The Trustees are confident that a permanent and worthy memorial to Dr. Neish, consistent with his many distinguished contributions to science in Canada and the Atlantic Provinces will be established.

A.C. NEISH, 1916-1973

Arthur Charles Neish, a preeminent biochemist who worked for 30 years in the laboratories of the National Research Council of Canada, died on September 7, 1973. A dedicated scientist, his primary interest was in doing research, which he pursued with a sustained vigor and purpose. His record of achievements is recorded in 106 publications, many widely quoted. Although he tolerated no

nonsense, his quiet modesty and friendliness gained him many friends and admirers. It was characteristic of Art that in the last year of failing health, he continued to participate in the planning and direction of the work on Chondrus crispus (Irish moss) that he began in 1968 and to advise and encourage his colleagues. Throughout his scientific career Art was fortunate in having a charming wife whose energy and enthusiasm were as great as his. Dorothy Ann Ray of Montreal and Art Neish were married in 1944. They have a daughter, Nancy, and three sons, Iain, Gordon and Douglas. Art Neish's death at an early age has deprived Nova Scotia of a most distinguished son and Canada of an outstanding scientist.

Art Neish was born in Granville Ferry, Nova Scotia on July 4, 1916. His father was an Anglican priest and the family moved several times from one small town or village to another in Nova Scotia or Prince Edward Island. During the summer months, Art worked on dairy farms or helped friends fish for lobsters. During the winter months he went to the one-room schools typical of that time. Throughout his career he retained an interest in plants and a desire to farm. Art obtained his Grade XI certificate by studying at home and writing the provincial examinations of Nova Scotia.

Art's first contact with science came when his parents sent him to the Nova Scotia Agricultural College at Truro. He quickly became interested in botany, but the enthusiasm of the chemistry professor, L.C. Harlow, resulted in divided loyalties. An undergraduate study on "Intratypal Soil Variation and Bronzing of Corn Plants" was entered in a contest sponsored by the Society of Chemical Industry in Montreal and won first prize. Art won the Governor General's Medal at Truro and a Macdonald College Scholarship (1935). At Macdonald, Art not only won prizes and distinctions for his academic work, but for his vigor and skill on the athletic field he received a 'most valuable athlete' award. His persistent attempts to master the art of playing the bagpipes, however, won him no honors. After receiving the degree of B.Sc. in agriculture in 1938, Art worked under W.D. MacFarlane on the isolation and composition of chloroplasts and obtained his M.Sc. from McGill in 1939, then in 1942 his Ph.D. for work on the biochemistry of plant tumors. This work, done in the Pulp and Paper Research Institute, was followed by collaborative work with Professor Hibbert on problems associated with the war effort and a brief stint as a sessional lecturer at McGill.

The Division of Applied Biology, National Research Council of Canada, hired Art Neish in 1943 to work with Dr. Gordon Adams and Dr. G.A. Ledingham on the production by fermentation of 2,3-butanediol, a possible starting material for the synthesis of rubber. This wartime project on the chemistry of 2,3-butanediol kindled an interest in fermentations and resulted in a series of investigations into the products formed by bacteria and the effect of controlled pH. The methods developed during these studies were published in a technical report in 1947. Twice revised and now out of print, "Analytical Methods for Bacterial Fermentations" was a popular manual.

The Prairie Regional Laboratory, on the campus of the University of Saskatchewan, at Saskatoon, was opened in 1948. It was here, first as Head of the Fermentations Section (1948-1955) and later as Head of the Plant Biochemistry Section (1955-1961) that much of his outstanding work was done. The investigations on the fermentation of sugars by bacteria and yeasts were continued. A radiotracer laboratory was established, and sugars labelled with ^{14}C in specific carbons were synthesized. These sugars were used in a series of studies on determining pathways employed by Aerobacter aerogenes in the dissimilation of pentoses and hexoses, pathways that were subsequently verified by others doing enzymatic studies. The tracer technique was applied to a study of biosynthesis in plants. This work required facilities for growing plants under controlled conditions of nutrition, temperature and light. To meet this need Dr. Ledingham, then Director of PRL, and Dr. Neish designed a new laboratory, equipped with an air conditioned greenhouse and growth chambers. It was in this laboratory that the studies on the biosynthesis of cell wall polysaccharides, lignin, cinnamic acids, flavonoids and other phenylpropanoid constituents of plants were done.

In 1962 Dr. A. Neish succeeded Dr. E.G. Young as Director of the Atlantic Regional Laboratory in Halifax, N.S. As at Saskatoon, this regional laboratory was situated on a university campus. Art Neish's efforts were directed at improving the facilities of the laboratory and assisting the Atlantic universities in increasing their scientific competence. A cooperative arrangement was established with Dalhousie University in which ARL staff were given honorary appointments in the Chemistry and Biology Departments, assisted with teaching and supervised graduate student research. Initially the students were financially supported by funds from the laboratory but in 1969 this support had to be withdrawn. Nevertheless, because of the success of the program, the cooperative arrangement has been continued.

Under Dr. Neish's directorship, an addition to the Atlantic Regional Laboratory was built which doubled the floor space available. In addition a Seaweed Culture Station was established on the Atlantic Coast at Sandy Cove, near Sambro, about 17 miles from Halifax. In his last four years of active research, Art Neish developed methods for growing Irish moss (Chondrus crispus) in tanks. It was his objective to bring the power of modern biology to bear on the study of these plants and establish a viable seaweed industry in the Maritimes.

Art Neish's accomplishments brought him many honors. Both Mount Allison and McGill Universities conferred honorary degrees of Doctor of Science on him. He was elected a Fellow of the Chemical Institute of Canada and was its Merck Lecturer in 1957. In 1960 he was elected a Fellow of the Royal Society of Canada and in 1971 a Fellow of the Royal Society, London. In 1968-69, Art Neish was President of the Canadian Society of Plant Physiologists and was the first winner of the Society's Gold Medal (1970). He was President of the Nova Scotian Institute of Science in 1969-70 and a member of the Society of Sigma Xi. In 1972 the National Research Council appointed him as a

Distinguished Research Scientist and the Government of Canada as an Officer of the Order of Canada. He served on the Editorial Boards of Phytochemistry, Science Forum and Le Naturaliste canadien and also served on the N.S. Selection Committee for the Rhodes Scholarship. A great Canadian.

BREF HISTORIQUE DE L'ASSOCIATION BOTANIQUE DU CANADA

Peu après 1960, plusieurs développements dans la botanique canadienne encouragent la Société Royale du Canada à former un comité pour étudier la possibilité d'établir une société botanique canadienne. En février 1964, plusieurs botanistes canadiens se réunissent dans ce but au Centre du Conseil national de recherches à Ottawa, sous l'égide du Dr. R.A. Ludwig. Ils décident alors d'inviter d'autres botanistes intéressés, à se réunir en juin 1964 à l'Université Queen's, à Kingston, lors de la réunion annuelle de la "Canadian Society of Plant Physiologists." A cette réunion on prend la résolution de fonder une société botanique canadienne et on élit un comité pour organiser une assemblée de fondation.

Celle-ci a lieu à l'Université Carleton en mai 1965; la publication subséquente d'un livre basé sur le symposium tenu à cette occasion ("L'évolution de la flore du Canada") témoigne de la réussite de cette réunion. L'élection du comité exécutif et la décision d'accepter l'invitation de l'Université de la Colombie-Britannique à tenir à Vancouver la réunion annuelle suivante constituent les points importants de l'assemblée générale proprement dite. Le Dr. Ludwig agit encore comme président de la nouvelle société lors de la deuxième réunion.

Au cours de ces deux réunions se crée la tradition de l'Association Botanique du Canada/Canadian Botanical Association - l'appellation bilingue, officielle, de l'ABC/CBA) de compléter les réunions scientifiques par des excursions. En outre, le programme des réunions annuelles de l'ABC/CBA se formalise, pour finalement comprendre une assemblée générale, plusieurs sessions de communications orales, des excursions, et des symposiums.

Chaque année, un comité local, en consultation avec le comité exécutif, organise au moins un symposium d'intérêt général; de même lors de réunions conjointes avec une autre société l'ABC/CBA participe à l'organisation de symposiums d'intérêts communs.

Un des premiers buts de l'ABC/CBA est d'organiser la réunion annuelle où tous les botanistes canadiens peuvent présenter des communications et prendre part aux excursions et aux symposiums. Les étudiants gradués en botanique sont non seulement bienvenus à faire partie de cette association mais ils reçoivent en outre une invitation spéciale à prendre part à ses activités. Ainsi des scientifiques venant d'instituts, de laboratoires fédéraux et provinciaux, et des industries ayant des points d'intérêts communs sur divers aspects de la connaissance des plantes peuvent se rencontrer, se connaître et échanger des idées dans la salle de lecture comme dans les endroits moins cérémonieux.

Plusieurs sections de l'ABC/CBA, qui concernent des domaines divers de la botanique, se sont organisées, soit: Ecologie, Section Générale, Mycologie, Paléobotanique, Phycologie, Systématique & Phytogéographie. Plusieurs comités de ces sections jouent des rôles importants; par exemple, l'un d'entre eux est en train d'accumuler des données sur les plantes en danger d'extinction au Canada. La liste des sections mentionnée ci-haut n'est pas exclusive, et la formation de nouvelles sections, particulièrement dans le champs de la physiologie, serait à souhaiter.

L'ABC/CBA publie un bulletin trimestriel auquel tous les membres de l'association sont encouragés à contribuer soit par des notices soit par d'autres articles intéressant leurs confrères. Ce bulletin publie aussi les avis et rapports des réunions, les rapports de divers comités de l'association ou des sections, et autres renseignements divers (par exemple, notices d'emplois en botanique).

L'ABC/CBA se fait souvent le porte-parole des botanistes canadiens. A l'assemblée générale, les motions qu'approuvent les membres présents sont transmis à divers ordres de gouvernements; par ailleurs ces corps publics, de temps à autre, demandent l'avis de l'ABC/CBA sur des sujets variés concernant la botanique.

L'ABC/CBA s'est réunie avec la "Canadian Society of Plant Physiologists" en 1966, 1970, et en 1972, et avec la "Canadian Phytopathological Society" en 1966. La plus grande réunion conjointe eut lieu à Edmonton en 1971 avec les sociétés botaniques de l'Amérique; plus de 1000 botanistes y assistaient. Une autre semblable fut tenue à Tempe, juin 1974.

<u>Année</u>	<u>Endroit de la réunion annuelle</u>	<u>Président de l'ABC/CBA</u>
1965	Université Carleton	R.A. Ludwig
1966	Univ. de la Colombie- Britannique	R.A. Ludwig
1967	Université d'Ottawa	E. Rouleau
1968	Université Lakehead	R.L. Taylor
1969	Université de Washington (XI ^e Congr. Internat. de Botanique)	J.C. Ritchie
1970	Université Laval	H.M. Dale
1971	Université de l'Alberta	J.R. Stein
1972	Université Dalhousie	H.R.N. Eydt
1973	University of Western Ontario	T.A. Steeves
1974	Tempe, Arizona (avec Amer. Inst. Biol. Sci.)	P.B. Cavers

L'ABC/CBA a toujours appuyé le Conseil canadien de biologie (CCB) dans ses requêtes pour l'avancement de la biologie au Canada. Ce conseil s'efforce de stimuler la communication entre les biologistes par des moyens divers comme par la publication de l'Annuaire des biologistes du Canada, la brochure "Why Biology?" pour les étudiants, et par l'étude des rapports du Conseil des sciences du Canada. En outre, plusieurs membres de l'ABC/CBA ont contribué à une étude commandée par le CCB sur les questions fondamentales liées à la biologie au Canada. Cet organisme a récemment demandé aussi à

l'ABC/CBA son appui pour la mise en nomination des candidats aptes à faire partie des Comités de sélection des subventions destinées aux chercheurs par le Conseil national de recherches du Canada. Le CCB sert donc de tribune où les biologistes canadiens peuvent discuter de divers problèmes, avec la participation active de l'ABC/CBA.

En 1969 l'ABC/CBA a décidé d'instituer une médaille (la médaille George Lawson). L'attribution de cette médaille est un témoignage officiel de reconnaissance de collègues botanistes pour l'excellence de la contribution d'un individu à la botanique au Canada. Jusqu'à maintenant les récipiendaires de la médaille Lawson sont: 1969, J. Rousseau; 1970, R.O. Earl; 1971, J. Kuijt, A.E. Porsild; 1972, V.J. Krajina, M. Nobles; 1973, M.W. Bannan, C. Frankton; 1974, J.G. Coulson, R. Sattler.

A BRIEF HISTORY OF THE CANADIAN BOTANICAL ASSOCIATION

There were several forces at work in Canadian botanical circles in the early 1960's which encouraged the Royal Society of Canada to form a committee to investigate the need for and desirability of a Canadian Botanical Society. The efforts of the R.S.C. committee led to a meeting of interested Canadian botanists representing many geographic areas. This meeting was held at the NRC Headquarters Building, Sussex Drive, Ottawa in February, 1964. Headed by Dr. R.A. Ludwig who did so much to launch CBA/ABC successfully, the resolve of the group was to invite more interested botanists to meet in June, 1964 at Queen's University, Kingston for a day, in association with the annual meeting of the Canadian Society of Plant Physiologists. Those who met at Queen's agreed that a botanical society should be founded, and elected a steering committee to organize the first annual meeting.

It was held in May, 1965 at Carleton University. At a business meeting officers were elected and an invitation from the University of British Columbia to hold the next meeting there was accepted. The symposium held at this first annual meeting was subsequently published as a book. The 2nd Annual Meeting took place in Vancouver in June, 1966, again with Dr. Ludwig, of the Plant Research Institute, Canada Department of Agriculture, in the Chair.

These first two meetings established the tradition of the CBA/ABC Annual Meetings, namely that of arranging the sessions around field trips. The pattern of the meetings, too, was set. Thus, the annual meeting of the CBA/ABC provides not only a forum called the Annual Business Meeting, but also the opportunity to present papers, to attend field trips and to attend special symposia.

Each year the local Committee, in consultation with the Executive Committee, has arranged at least one symposium of interest to all botanists, and when the CBA/ABC has met jointly with another society, most frequently with CSPP, symposia have usually been arranged.

The aim of the CBA/ABC is to provide a national annual meeting for all botanists where they have the opportunity to give

papers, to attend symposia, and to go on field trips. In this context the membership and active participation of botany graduate students is strongly encouraged. The meeting of personnel, the meeting of minds, the exchanging of ideas, both in the lecture room and elsewhere, brings together scientists from various institutions, from provincial and federal government laboratories, from universities as well as from industry; all with one common interest - PLANTS.

Within CBA/ABC a number of sections have been formed reflecting the main areas of botanical input. These include Ecology, General, Mycology, Palaeobotany, Phycology, Systematics & Phytogeography. Within some of these sections subcommittees are active, for example, one is set up to study potentially endangered plant species in Canada. The list is by no means exclusive. Additional sections will be encouraged, the field of Physiology being a priority case.

A quarterly bulletin is issued by the CBA/ABC to which members are encouraged to contribute items and articles of botanical interest. Annual meetings are advertised and reported, reports of subcommittees are summarised and information from botanical institutions and universities (e.g. job opportunities) is included.

From this organization has come an expression of interest and concern about the role of botanists and botany in Canada. Several motions of concern have been passed at the Annual Business Meeting and forwarded to the Government, and various levels of the Government have asked the Canadian Botanical Association to comment on a variety of topics.

The CBA/ABC met jointly with CSPP in 1966, 1970 and 1972 and with the Canadian Phytopathological Society in 1966. The largest undertaking was when the CBA/ABC hosted at Edmonton in 1971 a joint meeting, with all the American Botanical Societies invited. Over 1,000 botanists attended.

Year	Site of Annual Meeting	President
1965	Carleton University	R.A. Ludwig
1966	University of British Columbia	R.A. Ludwig
1967	Ottawa University	E. Rouleau
1968	Lakehead University	R.L. Taylor
1969	University of Washington (XI Int. Bot. Congress)	J.C. Ritchie
1970	Laval	H.M. Dale
1971	Edmonton	J.R. Stein
1972	Dalhousie	H.R.N. Eydt
1973	University of Western Ontario	T.A. Steeves
1974	Tempe, Arizona	P.B. Cavers

In 1969 the CBA/ABC established the George Lawson Medal in honour of Canada's earliest distinguished botanist. This award is made "to provide a collective and formal expression of the admiration and respect of botanists in Canada for the excellence of the contribution of an individual to Canadian botany." Recipients to date have been: 1969, J. Rousseau; 1970, R.O. Earl; 1971, A.E. Porsild, J. Kuijt; 1972, M.K. Nobles, V.J. Krajina; 1973, C. Frankton, M.W. Bannan.

The Canadian Botanical Association has always played a strong, active and supportive

role within the Biological Council of Canada. The Council represents an umbrella organization designed specifically to stimulate and promote biology in Canada. The Council has stimulated increased communication between members of the biological fraternity through the development of specific programs such as the Canadian Directory of Bioscientists, the brochure on "Why Biology?" for Canadian students, and the recent Special Reports that relate to the Science Council of Canada's special studies. Of particular importance to the botanical fraternity was the development and completion of the basic study on biology in which a number of members of the CBA played active roles. Recently, the Council has also requested the CBA to assist in the choice of nominees for the National Research Council of Canada's Grant Selection Committees. The Council provides a meeting place for biologists in Canada and the CBA will continue to participate in an active way within the organization.

PERSONALIA

It is with deep regret that we have learnt of the sudden death of Mr. S.T.B. Losee on September 9th, 1974.

NEWS FROM MEMORIAL UNIVERSITY

Dr. G. Robin South has recently returned to Memorial after a two year leave of absence in New Zealand, where he was carrying out studies on the large kelp *Durvillea*.

Mr. Harry Williams spent three weeks in July carrying out studies on Newfoundland liverworts with Guy R. Brassard and students.

Mr. A. Glen Ryan has published an attractive and most useful booklet, "Shrubs of Newfoundland" complete with excellent original illustrations. The booklet (79 pages) is published by the Parks Division, Dept. of Tourism, Government of Newfoundland.

Dr. Peter J. Scott is the author of a booklet entitled "Conifers of Newfoundland" incorporating keys, descriptions, and original illustrations of all Newfoundland species. It is published by Oxen Pond Botanic Park, Dept. of Biology, Memorial University.

On September 30th, 1974, a plaque unveiling ceremony was held at Oxen Pond Botanic Park, being developed by Memorial University. The plaque is a stylized version of the Botanic Park's floral emblem, *Linnaea borealis*. In attendance was Dr. Roy L. Taylor, Director of the Botanical Garden, U.B.C., who gave a public lecture the same evening entitled "Botanical Gardens: Try Them, You'll Like Them", and Dr. Ernest Rouleau, Institut Botanique, Université de Montréal, the foremost authority on Newfoundland plants.

THE FOURTH INTERNATIONAL PALYNOLOGICAL CONFERENCE

This will be held at Lucknow (India), from 29th December 1976 to 5th January 1977. The first circular was issued in April 1974. Those who have not received the circular but wish to receive it, kindly write to the Secretary-General, IV International Palynological Conference; 53, University Road, Lucknow 226007, India.

THE THIRTEENTH PACIFIC SCIENCE CONGRESS

The Pacific Science Association is an international, non-governmental, scientific organization. The membership is composed of countries or appropriate areas within or bordering the Pacific Ocean, or with territorial responsibilities within the region. There are currently 46 member countries or areas, and seven honorary member countries. The objectives are to initiate and promote cooperation in the study of scientific problems relating to the Pacific Region - more particularly those affecting the prosperity and well-being of Pacific peoples; and to strengthen the bonds of peace among Pacific peoples by promoting a feeling of brotherhood among the scientists of all Pacific countries.

The Thirteenth Congress will be held in Vancouver, Canada, on the campus of the University of British Columbia, from August 18-30, 1975. Approximately 3,500 delegates are expected to attend. The theme of the Congress is "Mankind's Future in the Pacific". This will be developed through seven sub-themes: Pacific populations, Aquatic resources, Energy resources, Land-Based resources, Nutrition, Science policy, and Man's Future Condition.

In addition, the following Scientific Committees of the Association are planning special scientific sessions: Botany, Conservation, Geography, Marine Sciences, Public Health and Medical Sciences, Coral Reefs, Social Sciences and Humanities, and Solid Earth Sciences. Every attempt will be made to integrate natural and social sciences in developing the major theme. An ambitious program of Pre- and Post-Congress tours is also planned.

All those interested in the objectives of the Association are cordially invited to attend the Thirteenth Congress. Titles and abstracts of relevant contributions should be sent to the Secretary-General by December 31, 1974. Many details relevant to the Congress were published in the Second Announcement, issued in August 1974. Further information or copies of this Announcement may be obtained by writing to the Secretary-General, Thirteenth Pacific Science Congress, University of British Columbia, Vancouver, B.C., Canada, V6T 1W5.

QUATERNARY NON-MARINE PALEOECOLOGY CONFERENCE

The Department of Earth Sciences will host a two day conference and a one day field trip on the theme of Quaternary Non-Marine Paleocology, May 12th-14th, 1975. This meeting will immediately proceed a joint meeting of the Geological Association of Canada, the Mineralogical Association of Canada and the North Central Section of the Geological Society of America to be held at the University of Waterloo, May 15th-17th, 1975.

The purpose of the Paleocology Conference is to acquaint Pleistocene workers with some of the problems of using different fossil groups in the interpretation of Quaternary non-marine sequences.

For further information contact Dr. Anne Morgan, Department of Biology, University of Waterloo, Waterloo, Ontario, N2L 3G1.

NATO ADVANCED STUDY INSTITUTE ON "PHLOEM TRANSLOCATION"

A highly successful Advanced Study Institute on "Phloem Translocation" was held in Banff, Alberta, August 18-28, 1974, at the Banff School of Fine Arts, jointly sponsored by the Scientific Affairs Division of the North Atlantic Treaty Organization, the National Research Council of Canada and the National Science Foundation of the United States. Translocation of solutes in the higher and lower plants was considered from the standpoints of barriers to flow imposed by the fine structure of sieve tubes and other types of conducting cells, transport kinetics for sugars and other compounds as revealed by pulse-chase and steady-state radioisotope tracer techniques and mathematical modelling, and a biophysical appraisal of the several models and mechanisms which have been advanced to explain the long distance translocation speeds and rates observed in various species.

Seventy anatomists, physiologists, and biophysicists from eight countries, representing most of the active centres of academic, government and industrial research on phloem translocation throughout the world attended the Institute.

The Chairman and principal organizer was Professor S. Aronoff, Dean of Science, Simon Fraser University, Burnaby, B.C. The other members of the Organizing Committee were Professors J. Dainty (University of Toronto), P.R. Gorham (University of Alberta), L. Srivastava (Simon Fraser University), C.A. Swanson (Ohio State University), P.E. Weatherley (University of Aberdeen). The Proceedings, including discussion, will be published by Plenum Press, Inc. New York, in 1975.

LA COLLECTION DE PLANTES DE L'ANCIEN MONT-SAINT-LOUIS

Le Conseil du District de Montréal des Frères des écoles chrétiennes a donné récemment à l'Université de Sherbrooke la collection de plantes de l'ancien Mont-Saint-Louis qui est devenu l'une des parties constituantes du Cégep du Vieux-Montréal. Ce don vient couronner les démarches entreprises par M. Albert Legault, professeur au Département de biologie et conservateur de l'herbier de l'Université de Sherbrooke.

Cette collection, riche de 9,651 spécimens tous bien identifiés et montés, a été amassée au fil des années par les professeurs de biologie et de sciences naturelles de l'ancien Mont-Saint-Louis. Mentionnons les frères Alexandre, Dominique, Bernard, Claude, Samuel, Sylvio, Etienne, Rolland-Germain, etc.

"Il suffit de se rappeler, écrit le professeur Legault, que c'est le frère Alexandre qui de sa main d'artiste a si brillamment illustré toutes les plantes décrites dans la Flore laurentienne du frère Marie-Victorin, pour réaliser la valeur scientifique de la collection du Mont-Saint-Louis."

Incorporées dans l'herbier du Département de biologie de l'Université de Sherbrooke, ces plantes sont maintenant gardées soigneusement. De plus, elles sont à la

disposition du monde scientifique puisque l'herbier de l'Université maintient un service de prêts et d'échanges avec les établissements botaniques du monde entier.

"Nous tenons à redire nos remerciements aux supérieurs des Frères des écoles chrétiennes pour ce généreux don, conclut M. Legault, ainsi qu'au frère Yves Payette, finissant au département de biologie, qui a servi d'intermédiaire dans toutes les démarches qui ont abouti à ce précieux legs."

PUBLICATIONS

Environmental Conservation. An International Journal devoted to maintaining global viability through exposing and countering environmental deterioration resulting from human population pressure and unwise technology. Nicholas Polunin, Founder and Editor. Quarterly. Four issues per annual volume of 300-350 pages. Contributions must be original and in English. For subscription: Circulation Manager, Environmental Conservation, IUCN Secretariat, 1110 Morges, Switzerland.

The Environmental Future. Nicholas Polunin, Ed. Collected papers and comments presented at the first International Conference on Environmental Future, held in Finland, 1971. Published June 1972. xiv + 660 pp. illustrated. Barnes and Noble, New York. Price \$32.50.

Asher's Guide to Botanical Periodicals 1973, volume I, nrs. 1 and 2. October, November, A. Asher & Co. B.V. Keizersgracht 526 Amsterdam, The Netherlands. Subscription to the entire volume for one year, published in 15 three-weekly issues of 250-300 pp. each D.fl. 550.-.

Asher's guide is a journal of the "current contents" type providing the lists of contents of current issues of primary journals. The total number of periodicals covered is over 5000, partly botanical (contents fully covered), partly more general with a coverage of botanical articles only.

The enumeration of the contents of the current issues appear in alphabetical order according to the titles of the periodicals. The first issue lists 3803 titles of botanical articles. Each issue contains an authors index as well as a subject index (including scientific names of plants, names of plant communities, and names of botanists).

Guide to the mosses of Colorado. Weber, W.A.: Keys and ecological notes based on field and herbarium studies. Institute of Arctic and Alpine Research of the University of Colorado, Occasional paper nr. 6, July 1973; 48 pp., soft cover.

This guide presents the first comprehensive treatment of the mosses of Colorado since the appearance of Sayre's Moss Flora of Colorado (1938). It is the fruit of 25 years of fieldwork in the area which resulted already in the author's wellknown Rocky Mountain Flora (4th edition 1972!).

The guide includes skillfully prepared keys and notes to the 292 species and varieties treated, a list of generic names and specific epithets with explanation of their meaning, and a short bibliography. In his preface the author states that "the present version is offered for testing and criticism". Illustrations are said to be provided in a following edition.

The author should be congratulated with the publication of this most useful new flora and we hope he will succeed in producing similar guides for the liverworts and the lichens of the area.

The present guide is dedicated to the memory of the late Henry S. Conard and is issued in celebration of the first I.A.B. fieldtrip in the Colorado Rocky Mountains.

S.R. Gradstein (Utrecht)
Taxon Volume 23

Chemistry in Botanical Classification, Edited by G. Bendz and Santesson, J. 1974. Proceedings of the 25th Nobel Symposium, Sweden, 1973. Academic Press, New York and London.

Contents: GENERAL ASPECTS ON PLANT CHEMOTAXONOMY: A. Takhtajan, The chemical approach to plant classification with special reference to the higher taxa of Magnoliophyta. A. Cronquist, Chemical plant taxonomy: A generalist's view of a promising specialty. V. H. Heywood, Chemosystematics--an artificial discipline. V. Herout, A chemical compound as a taxonomic character. T. J. Mabry, The chemistry of disjunct taxa. P. Tétényi, Homology of biosynthetic routes: The base in chemotaxonomy.

APPLICATIONS OF SPECIAL CLASSES OF COMPOUNDS: Flavonoids: T. Swain, Flavonoids as evolutionary markers in primitive tracheophytes. E. C. Bate-Smith, Systematic distribution of ellagitannins in relation to the phylogeny and classification of the angiosperms. J. B. Harborne, Flavonoids as systematic markers in the angiosperms. E. Nilsson & G. Bendz, Flavonoids in bryophytes. A. Fredga, G. Bendz & A. Apell, Red pigments in the Juncaceae family. Terpenoids: R. H. Flake & B. L. Turner, Volatile constituents, especially terpenes, and their utility and potential as taxonomic characters in populational studies. G. Ourisson, Some aspects of the distribution of diterpenes in plants. T. A. Geissman & M. A. Irwin, Chemical constitution and botanical affinity in *Artemisia*. K. Forsén & M. von Schantz, Chemotypen von *Chrysanthemum vulgare* (L.) Bernh. W. Herz, Pseudoguaianolides in Compositae. S. Natori, A. Yokoyama & K. Aoshima, Distribution of tetracyclic triterpenoids of lanostane group in pore fungi (Basidiomycetes). D. Lavie, Applying chemistry to genetics in certain Solanaceae. Alkaloids: G. H. Aynilian, N. R. Farnsworth & J. Trojanek, The use of alkaloids in determining the taxonomic position of *Vinca libanotica* (Apocynaceae). A. E. Schwarting, The quinolizidine alkaloids. Polypeptides, glucosinolates and glycolipids: D. Boulter, The use of amino acid sequence data in the classification of higher plants. U. Jensen, The interpretation of comparative serological results. A. Kjaer, The natural distribution of glucosinolates: a uniform group of sulfur-containing glucosides. H. Wagner, The chemistry of resin glycosides of the Convolvulaceae family. Lichen compounds: S. Shibata, Some aspects of lichen chemotaxonomy.

INSECTS AND PLANT CHEMOTAXONOMY: B. Kullenberg & G. Bergström, The pollination of *Ophrys* orchids.

BIOSYNTHESIS AND PHYLOGENY: A. J. Birch, Biosynthetic pathways in chemical phylogeny. G. Ourisson, Some aspects of organic geochemistry.

APPLICATION OF COMBINED
CHEMICAL CHARACTERS: T. J. Mabry, Is the
Order Centrospermae monophyletic? G.
Weimarck, Population structure in Circaea
lutetiana, C. alpina and C. x intermedia
(Onagraceae) as revealed by thin-layer
chromatographic patterns. W. F. Grant,
Chemosystematics in the classification of
cultivars. F. Sandberg, Biological and
chemical screening of plant materials.

GENERAL DISCUSSION: A.
Cronquist, List of angiosperm families in
need of chemical investigation.

CONCLUDING REMARKS: by D.
Boulter.

W.F. Grant

CANADIAN NATIONAL DIRECTORY OF IBP AREAS

The Canadian National Directory of IBP areas is now in press and will be available around November 15, 1974. The Directory is a condensed compilation of the ecological checksheet surveys of National and Provincial Parks, ecological reserves, natural areas, wildlife refuges and unprotected wildland areas, completed under the auspices of the Conservation Subcommittee for the International Biological Programme, during the period 1968-1973. It consists of individual summary sheets containing outline information of value to potential users in research or educational fields. The directory is published in an unbound notebook format, divided into ten regions. It can be purchased in its entirety for \$35.00 or as regional separates as follows:

Region	No. of Summaries	Price
1 British Columbia	136	\$ 7.00
2 Alberta	147	7.50
3 Saskatchewan	101	5.00
4 Manitoba	70	3.00
5 Ontario	215	13.50
6 Quebec	17	1.50
7 Maritimes: Prince Edward Island, Nova Scotia, New Brunswick	116	6.00
8 Newfoundland	67	3.50
9-10 Arctic and Subarctic: Yukon and Northwest Territories	42	3.00

Accession lists of the checksheeted IBP areas can be obtained for \$2.00 for Canada or .50 per region. Individual summaries can be obtained for .25 each. (Price includes handling and mailing by parcel post in Canada.)

It should be noted that precise locations and boundaries of the areas have been purposely omitted from the summaries. Individuals interested in a particular site can obtain this information from the appropriate institution listed at the end of a summary.

Enquiries should be addressed to Dr. G.H. La Roi or Mr. T.A. Babb, Department of Botany, University of Alberta, Edmonton, Alberta T6G 2E1. Please make cheques or money orders payable to "Canadian IBP Areas Directory".

An Important Notice CHARTER FLIGHT TO LENINGRAD

The following arrangements have been made for members wishing to attend the XII International Botanical Congress in Russia next summer. One charter flight (a DC8) has been arranged with Finnair flying from Montreal to Helsinki on July 1st, return fare \$302 (subject to revision if air fares are increased again). Participants will then travel by train from Helsinki to Leningrad (single fare about \$25), and return from Moscow to Helsinki after the field trips by train (single fare about \$40). The return flight Helsinki to Montreal will be on or about July 24th.

These arrangements are necessitated by the unwillingness of the Russian authorities to give landing permission at Leningrad. We are informed that participants attending from other countries in North America and Europe are also having to use the same route.

Members wishing to use this charter flight who have not already informed Dr. Ritchie should do so immediately (Dr. J.C. Ritchie, Chairman, Division of Life Sciences, Scarborough College, 1265 Military Trail, Scarborough, Ontario M1C 1A4). Those who have already indicated their interest in the charter need not write again and will be contacted in the near future.

The Bulletin of the Canadian Botanical Assoc.
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